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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/747,805

12/29/2003

Siva G. Narendra

P17329

1852

7590

10/28/2005

Buckley, Maschoff & Talwalkar LLC  
Five Elm Street  
New Canaan, CT 06840

EXAMINER

TRAN, THIEN F

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

ABZ

<b>Office Action Summary</b>	<b>Application No.</b> 10/747,805	<b>Applicant(s)</b> NARENDRA ET AL.	
	<b>Examiner</b> Thien F. Tran	<b>Art Unit</b> 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-13, 15-19 and 21-24 is/are rejected.
- 7) ☒ Claim(s) 14, 20 and 25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election of Group I (claims 5-25) in the reply filed on 10/11/2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5-13, 15-19 and 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Smits et al. (US 5,287,247).

Smits et al. disclose an apparatus (Figures 4A, 4C, 4D, 5B) comprising an integrated circuit (IC) die 422; a metal layer (a central button 430) on a back surface of the IC die; a heat spreader 424 conductively coupled to the metal layer; and a bias signal source coupled to the heat spreader to supply a bias signal to the IC die via the metal layer.

Regarding claims 6 and 16, a wire 442 is coupled to the heat spreader to provide the bias signal from the signal source.

Regarding claim 7, a package substrate (motherboard 402) on which the IC die is mounted, the package substrate (motherboard) inherently including a conductive path to provide the bias signal to the heat spreader 424.

Regarding claims 8, 12 and 18, the IC die includes a microprocessor (CPU 104).

Regarding claims 9 and 15, Smits et al. disclose the device comprising a substrate (402); an integrated circuit (IC) die 422 mounted on the substrate; a metal layer 430 on a back surface of the IC die; a heat spreader 424 electrically coupled to the metal layer; and an electrically conductive connection (442, 416, 124) to couple the heat spreader to a device (motherboard 402) external to the IC die.

Regarding claims 10, 17 and 22, the substrate (motherboard 402) inherently includes electrically conductive connection passing through it to provide +5v bias signal to the die.

Regarding claims 11 and 23, the electrically conductive connection includes a wire 442 that is not part of the substrate 402.

Regarding claims 13, 19 and 24, the IC die 422 is mounted in flip-chip fashion on the substrate (Fig. 5B).

Regarding claim 21, Smits et al. further disclose a system (Figs. 1 and 4A) comprising a chipset in communication with the microprocessor.

#### ***Allowable Subject Matter***

Claims 14, 20 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Prior art references do not teach or render obvious an article or apparatus comprising a layer of solder between the metal layer and the heat spreader.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thien F. Tran whose telephone number is (571) 272-1665. The examiner can normally be reached on 8:30AM - 5:00PM Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (571) 272-1732. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tt  
October 26, 2005

  
**THIEN TRAN**  
**PRIMARY EXAMINER**